



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/559,207

12/02/2005

Dirk Kothen

4100-374PUS

4772

27799

7590

11/19/2010

COHEN, PONTANI, LIEBERMAN & PAVANE LLP
551 FIFTH AVENUE
SUITE 1210
NEW YORK, NY 10176

EXAMINER

MCGRAW, TREVOR EDWIN

ART UNIT

PAPER NUMBER

3752

MAIL DATE

DELIVERY MODE

11/19/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DIRK KOTHEN, GERTRUD MEGGENRIEDER,
DIETMAR PINKERNELL, ANDREAS STICHNOTH
and HAKAN YALCIN

Appeal 2009-008394
Application 10/559,207
Technology Center 3700

Before JOHN C. KERINS, KEN B. BARRETT, and
FRED A. SILVERBERG, *Administrative Patent Judges*.

SILVERBERG, *Administrative Patent Judge*.

DECISION ON APPEAL¹

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

STATEMENT OF THE CASE

Dirk Kothen et al. (Appellants) seek our review under 35 U.S.C. § 134 of the final rejection of claims 6 and 9. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

We REVERSE.

THE INVENTION

Appellants' claimed invention is directed to a fuel injection nozzle having a cooling duct (Spec. 1: para. [0001]).

Claim 6, reproduced below, is representative of the subject matter on appeal.

6. A fuel injection nozzle comprising a housing, the housing comprising:

- a nozzle needle bore having a central axis, an axial length, and a lower portion comprising a needle seat, an axial dimension of the lower portion being substantially smaller than the axial length of the bore;

- an outside surface radially spaced from the axis;

- a cooling duct arranged around the lower portion of the bore, the cooling duct being closer to the bore than to the outside surface of the housing, the cooling duct having a cross-sectional area in a plane through the central axis, the cross-sectional area having a height in the axial direction and a width transverse to the axis, the width being approximately 0.25 times the height, wherein an entire height of said cooling duct is arranged at said lower portion proximate said needle seat; and

- a cooling medium inflow line having a first portion extending axially in the housing and a second portion connecting the first portion to the cooling duct, the inflow line having a cross-sectional area, the cross-sectional area of the cooling duct being approximately twice the cross-sectional area of the inflow line.

THE REJECTION

The following rejection by the Examiner is before us for review:

Claims 6 and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Marsch² (DE 27 46 901 A1, published Jul. 20, 1978).

ISSUES

The issues before us are: (1) whether the Examiner erred in finding that Marsch describes “the cross-sectional area of the cooling duct being approximately twice the cross-sectional area of the inflow line,” as called for in claim 6 (Reply Br. 2, App. Br. 5), and (2) whether the Examiner erred in concluding that the ratio between the cross-sectional area of the cooling duct and the inflow line, as called for in claim 6, would have been obvious to a person having ordinary skill in the art (Reply Br. 2, App. Br. 5).

ANALYSIS

Appellants contend that Marsch fails to describe that the cross-sectional area of the cooling duct is approximately twice the cross-sectional area of the inflow line (App. Br. 5). Appellants contend that Marsch is silent as to the ratio between the cross-sectional area of the cooling duct 12 and the coolant bore 15 (App. Br. 5). Appellants contend that as a result of the claimed cross-section area design “a relatively high flow rate of the cooling medium and thus a relatively large rate of dissipation of heat is brought about” (Reply Br. 2).

² We rely on the translation of Marsch supplied by the Examiner. Both Appellants and the Examiner have supplied translations of Marsch, while Appellants’ translation is computer-generated.

The Examiner found, in the body of the rejection, that “the cross sectional area of the cooling duct (12) is approximately twice the cross sectional area of the cooling medium inflow line (15)” (Ans. 4). The Examiner, in the response to arguments section of the Examiner’s Answer, concluded that “changing the . . . area of the cooling duct is obvious to one having ordinary skill in the art,” and that “the optimum sizing arrangement of a feature, whether larger or smaller in cross-sectional area does not constitute patentability and renders such a change as an obvious matter of engineering design choice” (Ans. 5-6).

Claim 6 calls for, *inter alia*, “the cross-sectional area of the cooling duct being approximately twice the cross-sectional area of the inflow line.”

Marsch’s specification is silent as to the ratio between the cross sectional area of the cooling duct 12 and the coolant bore 15. The Examiner apparently relies on Marsch’s drawings in making the finding as to the sizes of the duct and bore. However, Marsch’s patent drawings may not be relied on to show particular sizes since Marsch’s specification is completely silent on the issue. *See Hockerson-Halberstadt, Inc. v. Avia Group Int’l*, 222 F.3d 951, 956 (Fed. Cir. 2000) (“it is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue.); *see also In re Wright*, 569 F.2d 1124, 1127 (CCPA 1977) (“Absent any written description in the specification of quantitative values, arguments based on measurement of a drawing are of little value.”)

As a result, we find that that the Examiner’s finding that Marsch describes approximately the claimed ratio between the cross sectional area

of the cooling duct 12 and the coolant bore 15 is a conclusory statement not supported by the actual disclosure.

It appears that the Examiner may have alternatively concluded that the recited ratio between the cross-sectional areas of the cooling duct and the inflow line would have been an obvious matter of engineering design choice (*see* Ans. 5-6 (referring to changing the area of the cooling duct and optimum sizing of a cross-sectional area)).

Appellants' Specification describes that:

The cross sectional area of the cooling duct 6 here is approximately twice the cross sectional area of the cooling medium inflow line 7. As a result, a relatively high flow rate of the cooling medium and thus a relatively large rate of dissipation of heat is brought about. Dead water regions are also avoided with this design.

(Emphasis added) (Spec. 3: para. [0011]).

In contrast to Appellants' disclosure, the Examiner has not set forth any reasoning to support why a person of ordinary skill in the art would arrive at the claimed ratio of areas. Therefore, we conclude that the Examiner has not adequately established that the claimed ratio between the cross sectional area of the cooling duct 12 and the coolant bore 15 is an obvious matter of engineering design choice. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”). *See In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967) (“The legal conclusion of obviousness must be supported by facts. Where the legal conclusion is not supported by facts it cannot stand.”.)

Thus, we are constrained to reverse the rejection of independent claim 6, and claim 9 which depends therefrom.

CONCLUSIONS

The Examiner has erred in finding that Marsch describes “the cross-sectional area of the cooling duct being approximately twice the cross-sectional area of the inflow line,” as called for in claim 6.

The Examiner has erred in concluding that the ratio between the cross-sectional area of the cooling duct and the inflow line, as called for in claim 6, would have been obvious to a person having ordinary skill in the art.

DECISION

The decision of the Examiner to reject claims 6 and 9 is reversed.

REVERSED

JRG

COHEN, PONTANI, LIEBERMAN & PAVANE LLP
551 FIFTH AVENUE
SUITE 1210
NEW YORK, NY 10176